DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division — Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: LITTLE	POND	Lake Area (ha):	7.69
Town:	SANDWICH	Maximum depth (m):	8.2
County:	Carroll	Mean depth (m):	3.6
River Basin:	Merrimack	Volume (m³):	267500
Latitude:	43°47'30" N	Relative depth:	2.7
Longitude:	71°24'15" W	Shore configuration:	1.03
Elevation (f	t): 650	Areal water load (m/yr):	7.22
Shore length	(m): 1000	Flushing rate (yr ⁻¹):	2.00
Watershed are	ea (ha): 101.0	P retention coeff.:	0.60
% watershed p	panded: 0.0	Lake type: natura	l w/dam

BIOLOGICAL:	7 February 1989	26 July 1988
DOM. PHYTOPLANKTON (% TOTAL) #1	DINOBRYON 90%	CERATIUM 45%
#2		
#3		
PHYTOPLANKTON ABUNDANCE (cells/mL)		1035.0
CHLOROPHYLL-A (Jug/L)		4.92
DOM. ZOOPLANKTON (% TOTAL) #1	KERATELLA 29%	VORTICELLA 72%
#2	SYNCHAETA 22%	NAUPLIUS LARVA 10%
#3	BOSMINA 22%	KELLICOTTIA 8%
ROTIFERS/LITER	64	13
MICROCRUSTACEA/LITER	22	20
ZOOPLANKTON ABUNDANCE (#/L)	89	115
VASCULAR PLANT ABUNDANCE		Scattered
SECCHI DISK TRANSPARENCY (m)		4.4
BOTTOM DISSOLVED OXYGEN (mg/L)	4.0	1.1
BACTERIA (fecal col., #/100 ml) #1		
#2		
#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m): 4.7 Hypolimnion volume (m³): None

CHEMICAL:	Lake: LITTLE POND Town: SANDWICH				
	7 February 1989		26 July 1988		
DEPTH (m)	2.5	5.0	2.5		5.0
pH (units)	6.8	6.7	6.7		6.5
A.N.C. (Alkalinity)	10.5	10.2	9.9		12.6
NITRATE NITROGEN	< 0.05	< 0.05			
TOTAL KJELDAHL NITROGEN	0.36	0.36	0.21		0.31
TOTAL PHOSPHORUS	0.009	0.014	0.007		0.015
CONDUCTIVITY (p mhos/cm)	54.2	54.1	47.0		53.5
APPARENT COLOR (cpu)	9	11	13		18
MAGNESIUM			0.35		
CALCIUM			3.1		
SODIUM			4.8		
POTASSIUM			0.60		
CHLORIDE	7	7			
SULFATE	4	4			
TN : TP	40	26			
CALCITE SATURATION INDEX			3.1		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1988

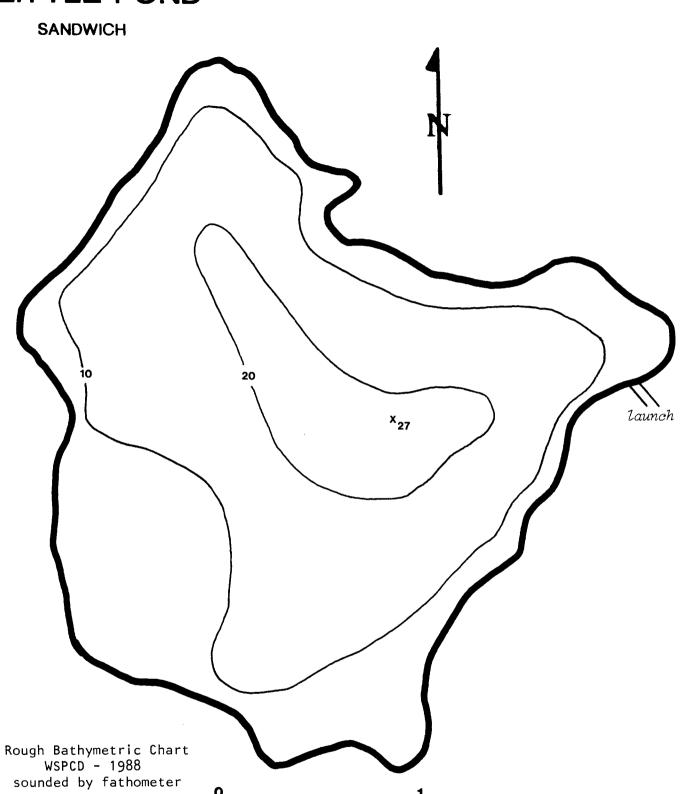
D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	2	1	1	4	Oligo.

COMMENTS:

- 1. Fathometer readings fluctuated 3 to 4 feet in the deeper areas, evidence of a soft, oozy bottom or plant growth (Chara) on the bottom.
- 2. All motor boats are restricted from the pond.
- 3. Good launch site was present.
- 4. The shoreline was mostly sandy or rocky.
- 5. Green algae (65%) and cryptomonads were the dominant classes of whole-water phytoplankton. The dominant genus was tiny green flagellates (40%).

LITTLE POND

10 ft. isobaths



km

FIELD DATA SHEET

LAKE: LITTLE POND

TOWN: SANDWICH

DATE: 07/26/88

WEATHER: HOT, HAZY, HUMID, BREEZY

D	EPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
	0.1	25 • 1	7.6	91 %
	1.0	24.9	7.5	88 %
	2.0	24.8	7.4	87 %
	3.0	24.5	7.1	84 %
	4.0	22.2	6.0	69 %
	5.0	17.3	2.6	27 %
	6.0	13.5	0.5	5 %
	7.0	12.1	1.1	10 %
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SECCHI DISK (m): 4.4

COMMENTS: Increase in D.O. at the bottom

BOTTOM DEPTH (m): 7.4

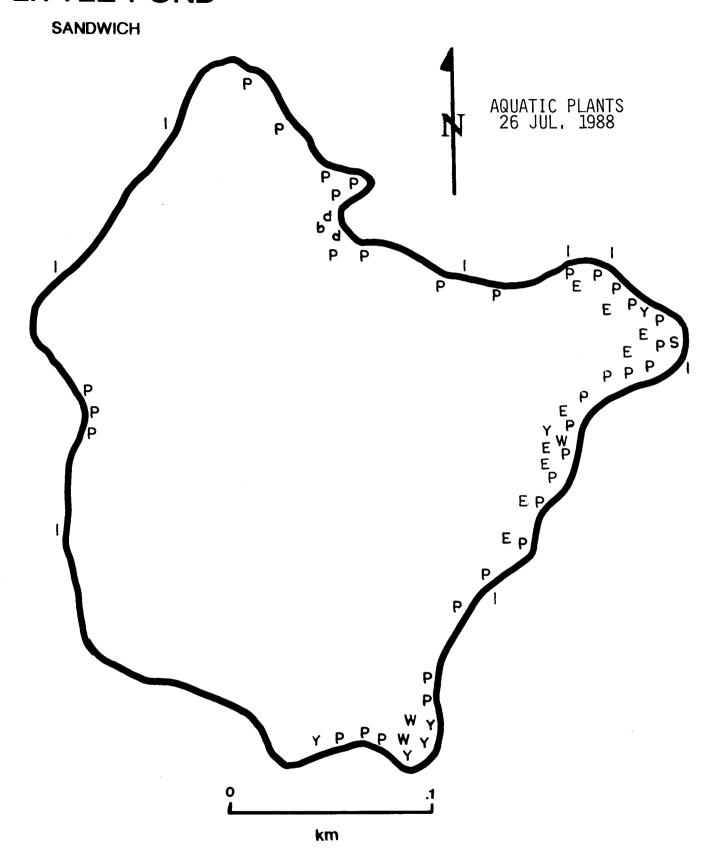
may be due to the alga <u>Chara</u>, which was over the bottom of the

pond.

TIME: 1145

*Dissolved oxygen values are in mg/L

LITTLE POND



AQUATIC PLANT SURVEY

LAKE: LITTLE POND		TOWN: SANDWICH	DATE: 07/26/88	
14	PLANT	NAME	ABUNDANCE	
Key	GENERIC	COMMON		
Р	Pontederia cordata	Pickerelweed	Scattered	
Ε	Eriocaulon septangulare	Pipewort	Sparse	
Υ	Nuphar	Yellow water lily	Sparse	
S	Sparganium	Bur reed	Sparse	
I	Iris	Iris	Sparse	
d	Dulichium arundinaceum	Three-way sedge	Sparse	
W	Potamogeton amplifolius	Bass weed	Sparse	
			1	

OVERALL ABUNDANCE: Scattered

GENERAL OBSERVATIONS:

- 1. Chara came up with the anchor; although not depicted on the map, it was probably over much of the bottom.
- 2. Numerous frogs and crayfish were observed.
- 3. A beaver hut was present.